

**AMENDMENTS TO THE CLAIMS**

1-23. (canceled)

24. (new) An isolated nucleic acid molecule encoding a hydroxymethylglutaryl-CoA synthase, wherein the nucleotide sequence of said nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of:

- (a) a transcript or cDNA sequence that encodes a polypeptide having an amino acid sequence comprising SEQ ID NO:2;
- (b) SEQ ID NO:1;
- (c) nucleotides 145-1578 of SEQ ID NO:1; and
- (d) a nucleotide sequence that is completely complementary to the nucleotide sequence of (a), (b), or (c).

25. (new) An isolated nucleic acid molecule encoding a hydroxymethylglutaryl-CoA synthase, wherein the nucleic acid molecule has a nucleotide sequence comprising SEQ ID NO:1 or the complement thereof.

26. (new) An isolated nucleic acid molecule encoding a hydroxymethylglutaryl-CoA synthase, wherein the nucleic acid molecule has a nucleotide sequence comprising nucleotides 145-1578 of SEQ ID NO:1 or the complement thereof.

27. (new) An isolated transcript or cDNA nucleic acid molecule comprising a nucleotide sequence that encodes a hydroxymethylglutaryl-CoA synthase having an amino acid sequence comprising SEQ ID NO:2, or the complement of said nucleotide sequence.

28. (new) The isolated nucleic acid molecule of claim 24, further comprising a heterologous nucleotide sequence.

Serial No. 10/622,516

29. (new) The isolated nucleic acid molecule of claim 28, wherein the heterologous nucleotide sequence encodes a heterologous amino acid sequence.
30. (new) A vector comprising the nucleic acid molecule of any one of claims 24-29.
31. (new) An isolated host cell containing the vector of claim 30.
32. (new) A process for producing a polypeptide comprising culturing the host cell of claim 31 under conditions sufficient for the production of said polypeptide, and recovering said polypeptide.
33. (new) The vector of claim 30, wherein said vector is selected from the group consisting of a plasmid, a virus, and a bacteriophage.
34. (new) The vector of claim 30, wherein said nucleic acid molecule is inserted into said vector in proper orientation and correct reading frame such that a polypeptide comprising SEQ ID NO:2 is expressed by a cell transformed with said vector.
35. (new) The vector of claim 34, wherein said isolated nucleic acid molecule is operatively linked to a promoter sequence.